

Appl. No. 09/827,507
Amdt. Dated July 15, 2004
Reply to Office Action of 3/25/04

Attorney Docket No. 81855.0008
Customer No.: 26021

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method of monitoring the manufacturing status of a machine comprising the steps of:

assigning a machine identifier to a machine comprised of one or more components, each one or more components to be incorporated into the machine at one or more production stations, wherein each one or more production stations is assigned a production station identifier;

inputting the machine identifier into at least one memory of a first computer;

inputting a unit control identifier for each one or more components wherein the unit control identifier is linked to the production station identifier where the unit control identifier is input;

inputting defect information for each one or more component into the memory at an inspecting station apart from any of the production stations, wherein each inspecting station is assigned an inspecting station identifier, so that the defect information and the unit control identifier are linked to the inspecting station where the defect information is input and wherein the defect information includes at least one defect phenomenon

linking the stored unit control identifier and the stored machine identifier, wherein the defect information includes at least one of defect rates and rates without defect, wherein the defect rate information comprises a listing of each inspection station, a number of defects identified at each production station, a number of units inspected, a defect rate at each inspection station, a total number of

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Attorney Docket No. 81855.0008
Customer No.: 26021

defects, a failure rate, a category and number of each category of defect detected and an associated failure rate; and

outputting defect information which includes at least one of the machine identifier and the unit control identifier, wherein the machine history in manufacturing is traced later

inputting a business function identifier into the memory, wherein the business function identifier identifies the party responsible for resolving the at least one defect phenomena.

2. (Original) The method of claim 1, wherein the machine identifier and the unit control identifier are input by scanning bar codes assigned to the machine and the component.

3. (Cancelled)

4. (Cancelled)

5. (Previously presented) The method of claim 1, further comprising the steps of

inputting a resolving method for the at least one defect phenomena into the memory.

6. (Original) The method of claim 5, wherein the resolving method is selected from a list of pre-stored resolving methods.

7. (Original) The method of claim 5, wherein the selected resolving method is stored in the memory for later use.

8. (Previously presented) The method of claim 5, further comprising the

Appl. No. 09/827,507
Amdt. Dated July 15, 2004
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Attorney Docket No. 81855.0008
Customer No.: 26021

steps of:

inputting a new unit control identifier corresponding to a new component, wherein the new component replaces another component by implementation of said resolving method.

9. (Previously presented) The method of claim 1, wherein said output is displayed on a second computer that is connected to the first computer through a network.

10. (Previously resented) The method of claim 1, further comprising the step(s) of:

inputting the time when said defect phenomena occurred.

11. (Original) The method of claim 10, wherein said output is accessed in real time.

12. (Original) The method of claim 10, wherein the information in the memory can be retrieved by selecting at least one of the machine identifier, the unit control identifier, the production station identifier and the inspection station identifier.

13. (Original) The method of claim 10, wherein the information in said memory can be sorted by using at least one of the machine number, the unit control identifier, the production station identifier and the inspection station identifier.

14. (Original) The method of claim 1, wherein the output is printed out daily.

15. (Cancelled)

Appl. No. 09/827,507
Amdt. Dated July 15, 2004
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Attorney Docket No. 81855.0008
Customer No.: 26021

16. (Previously presented) The method of claim 1, further comprising the step(s) of:

selecting designating stations among said responsible business functions to send message through said network to said selected responsible business functions.

17. (Previously presented) The method of claim 16, further comprising the step of:

selecting at least one of said business functions to see messages that are sent from said selected stations.

18. (Previously Presented) The method of claim 1, wherein said outputting process comprises the steps of;

counting the number of times of said defect and the number of times of manufactured component;

calculating statistics which relate to said defect automatically; and

outputting said calculated statistics.

19. (Cancelled)

20. (Previously presented) The method of claim 1, further comprising the steps of:

inputting the at least one defect phenomena for each machine into the memory at a quality assurance station, wherein said quality assurance station has a quality assurance identifier, and wherein the quality assurance station is linked to the machine number.

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21. (Previously presented) The method of claim 1 further comprising the steps of:

inputting a second machine identifier into the memory, wherein the second machine identifier is assigned to each machine and is different from the first machine identifier;

counting an input quantity at a production station based on the stored first machine identifier and an output quantity from a second production station based on the stored second machine identifier; and

generating a work-in-process number from at least the input quantity and the output quantity.

22. (Currently amended) A method of tracing a machine history in manufacturing by using computers, wherein said machine includes plural components, comprising the steps of;

assigning each component a unit control identifier;

incorporating each component at a production station, wherein the production station is assigned a production station identifier;

inputting the unit control identifier into at least one memory of a second computer which is connected to the first computers through a network by using bar code at each of said production stations;

inspecting each component at an inspection station apart from any of the production stations before the assembled units are assembled as said machine;

inputting defect information into said memory at each inspecting station such that said inputted defect information includes at least one defect phenomenon and information identifying the inspection station, and said defect information is linked to said unit control identifier, wherein said inputted defect information in said memory is traced in real time by using said unit control number, wherein the defect

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information includes at least one of defect rates and rates without defect, wherein the defect rate information comprises a listing of each inspection station, a number of defects identified at each production station, a number of units inspected, a defect rate at each inspection station, a total number of defects, a failure rate, a category and number of each category of defect detected and an associated failure rate and,

inputting a business function identifier into the memory, wherein the business function identifier identifies the party responsible for resolving the at least one defect phenomena.

23. (Previously presented) The method of claim 22, further comprising the steps of:

inputting a production station identifier at each production station before each of the components is assembled, wherein said inputted defect information in memory is traced in real time by using said unit control identifier and the production station identifier.

24. (Previously presented) The method of claim 22, further comprising the steps of:

assigning a machine identifier to each machine that is going to be manufactured at plural production stations;

inputting said machine identifier into at least one memories of said computer; and

linking said machine identifier and said unit control identifier, wherein said inputted defect information in said memory is traced in real time by using said unit control identifier, said production station identifier and said machine identifier.

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25. (Previously presented) A method of claim 23, further comprising the steps of:

inspecting said machine after said units are assembled; and
inputting the result of inspection, wherein said inputted inspection information in said memories is traced in real time by using said unit control number, and assembling station, said machine number.